TITLE: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE
ACKNOWLEDGEMENT
INVENTORS NAME: Mingqiu Sun et al.
DOCKET NO.:   884.439US1

1/6

NETWORK
(E.G., INTERNET)

Fig. 1

TITLE: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE
ACKNOWLEDGEMENT
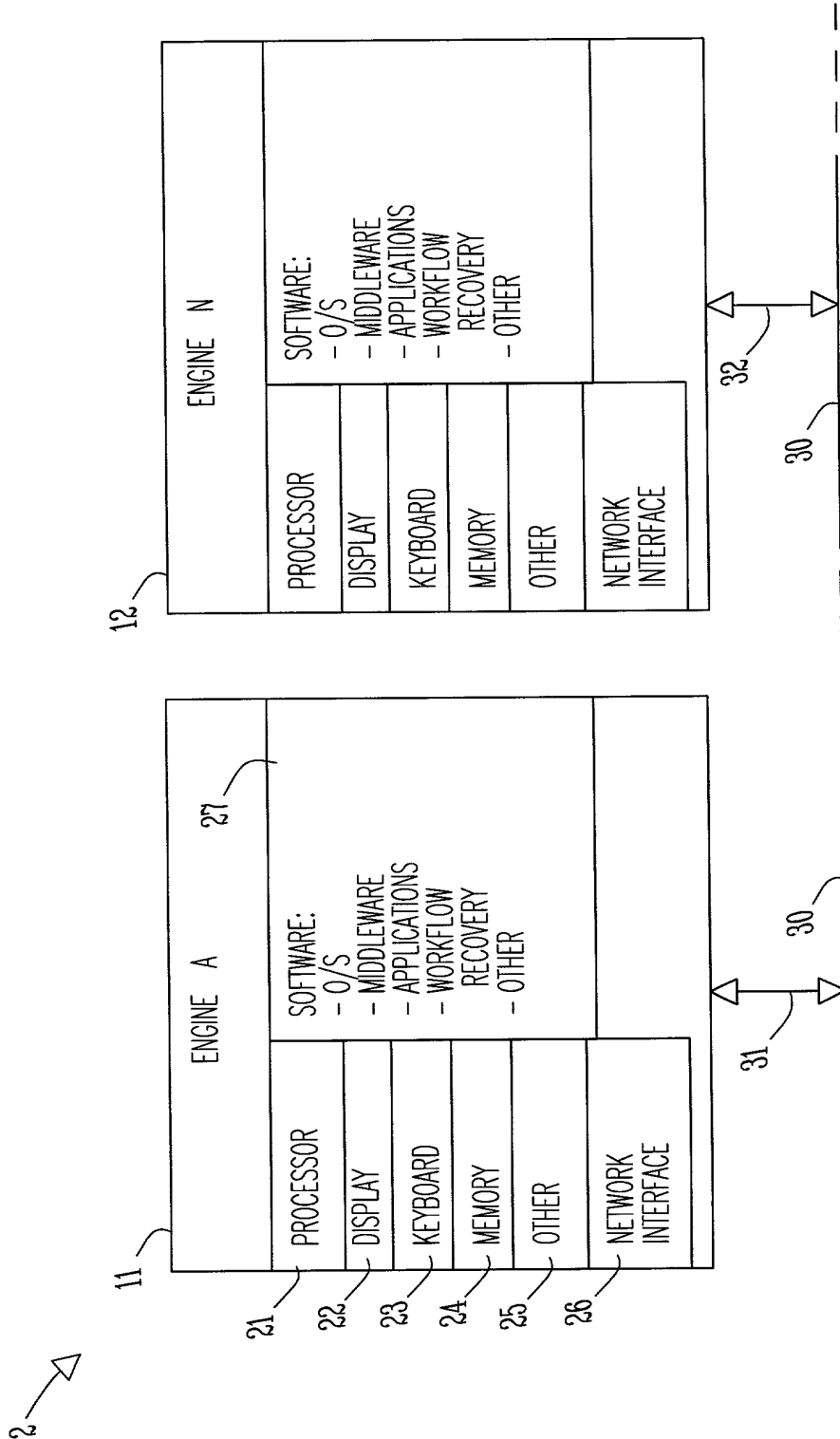INVENTORS NAME: Mingqiu Sun et al.
DOCKET NO.: 884.439US1

2/6

ENGINE N

SOFTWARE:
- O/S
- MIDDLEWARE
- APPLICATIONS
- WORKFLOW
- RECOVERY
- OTHER

PROCESSOR
DISPLAY
KEYBOARD
MEMORY
OTHER
NETWORK
INTERFACE

12

32

30

ENGINE A

27

SOFTWARE:
- O/S
- MIDDLEWARE
- APPLICATIONS
- WORKFLOW
- RECOVERY
- OTHER

PROCESSOR
DISPLAY
KEYBOARD
MEMORY
OTHER
NETWORK
INTERFACE

11

21
22
23
24
25
26

31

30

2

Fig.2

TITLE: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE
ACKNOWLEDGEMENT
INVENTORS NAME: Mingqiu Sun et al.
DOCKET NO.: 884.439US1

3/6

Fig.3

TITLE: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE
ACKNOWLEDGEMENT
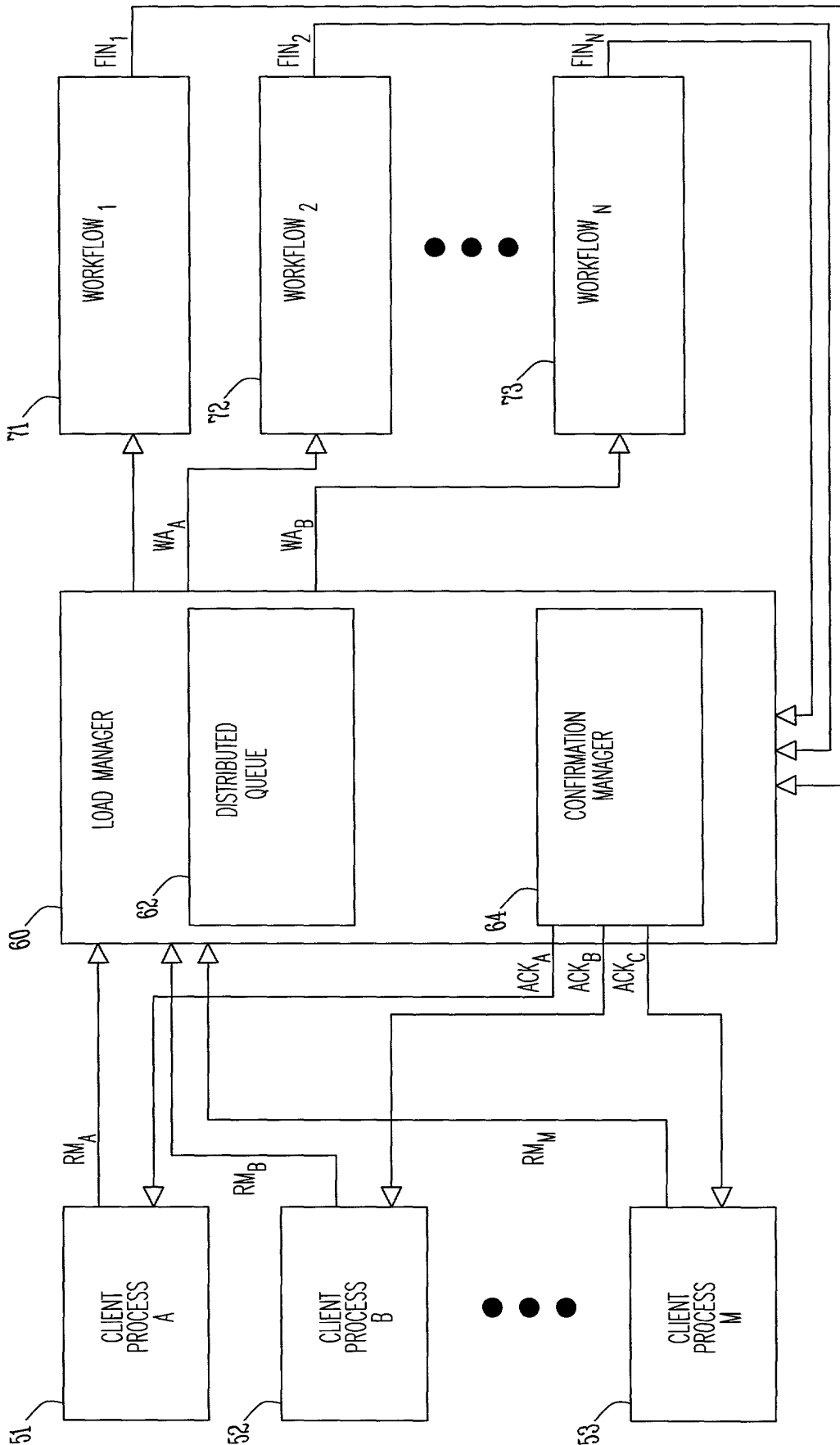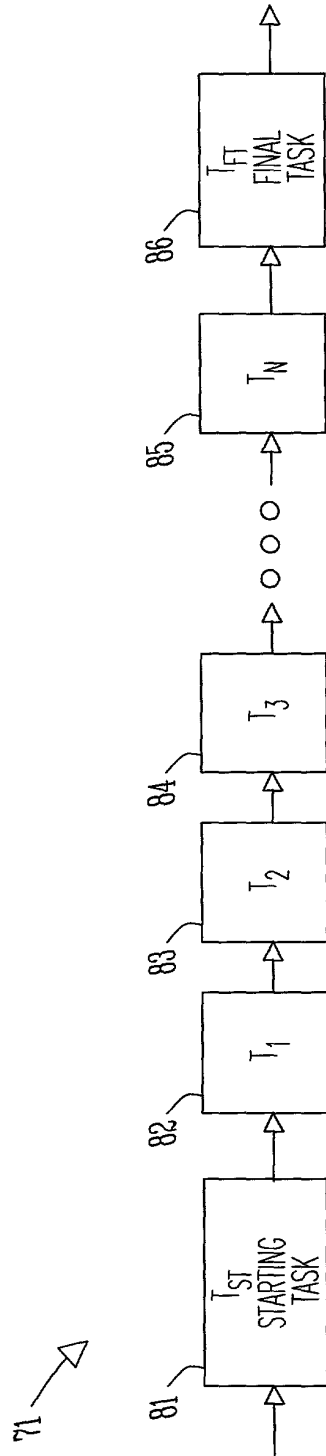INVENTORS NAME: Mingqiu Sun et al.
DOCKET NO.: 884.439US1

4/6

Fig. 4

TITLE: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE
ACKNOWLEDGEMENT
INVENTORS NAME: Mingqiu Sun et al.
DOCKET NO.: 884.439US1

5/6

100

BEGIN

102

PROVIDE DISTRIBUTED QUEUING OF WORKFLOWS AMONG A
PLURALITY OF WORKFLOW ENGINES

WORKFLOW EXECUTION CAN BE REQUESTED BY ONE OR
MORE EXECUTION-REQUESTING CLIENTS

104

WORKFLOW
IS COMPLETED
BY A FIRST
WORKFLOW
ENGINE?

NO

YES

106

SEND AN EXPLICIT AND DELAYED ACKNOWLEDGEMENT TO
THE EXECUTION-REQUESTING CLIENT

END

108

ASSIGN THE WORKFLOW TO ANOTHER WORKFLOW ENGINE

110

WORKFLOW
IS COMPLETED
BY THIS
WORKFLOW
ENGINE?

NO

YES

112

SEND AN EXPLICIT AND DELAYED ACKNOWLEDGEMENT TO
THE EXECUTION-REQUESTING CLIENT

114

END

Fig. 5

TITLE: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE
ACKNOWLEDGEMENT
INVENTORS NAME: Mingqiu Sun et al.
DOCKET NO.:   884.439US1

6/6

200
BEGIN

202
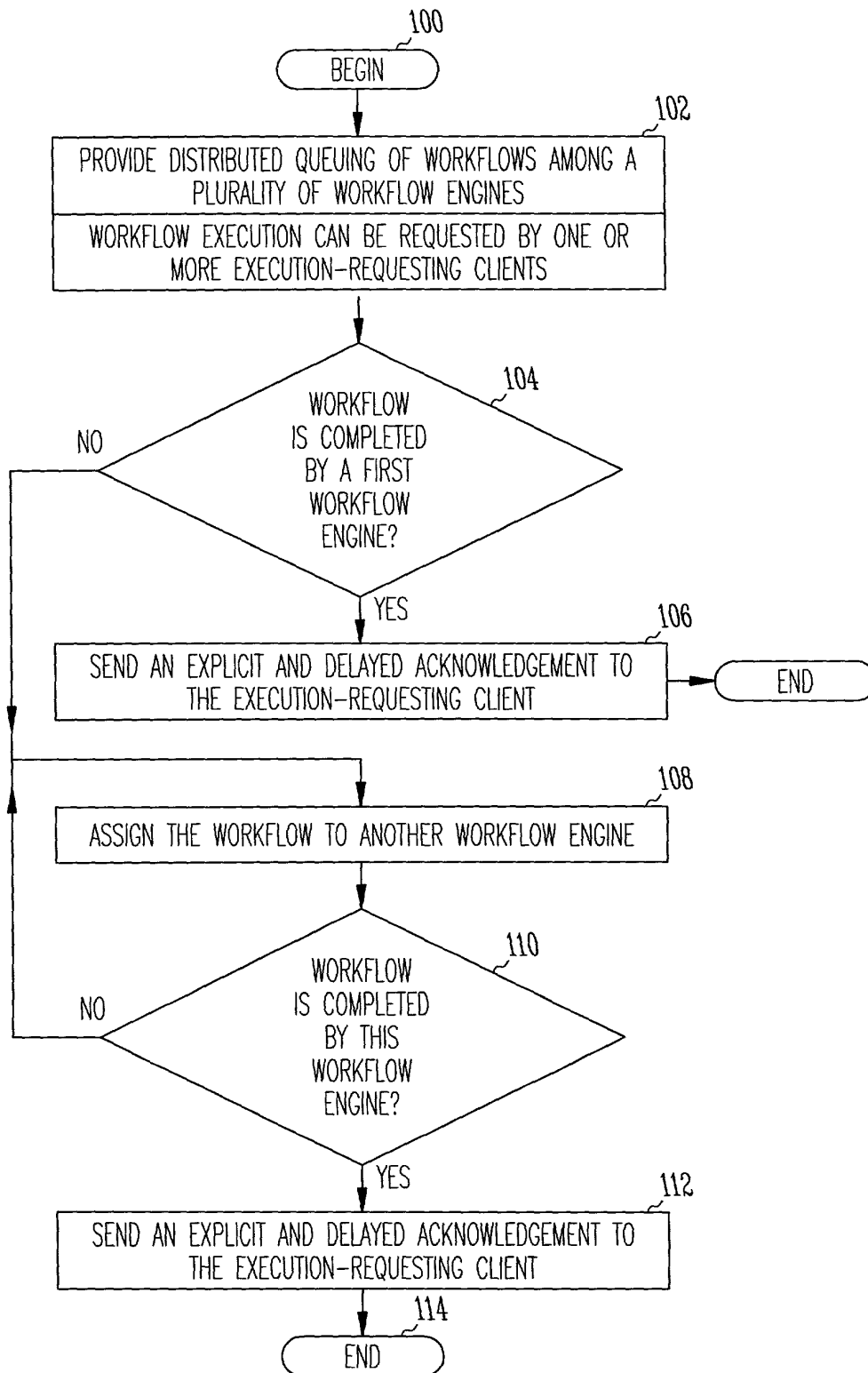REQUEST A WORKFLOW EXECUTION ON BEHALF OF A CLIENT

204
ASSIGN WORKFLOW EXECUTION TO A FIRST WORKFLOW ENGINE

206
WORKFLOW IS COMPLETED BY FIRST WORKFLOW ENGINE?

NO

YES

208
SEND AN EXPLICIT AND DELAYED ACKNOWLEDGEMENT TO THE CLIENT

END

210
ASSIGN THE WORKFLOW TO ANOTHER WORKFLOW ENGINE

212
WORKFLOW IS COMPLETED BY THIS WORKFLOW ENGINE?

NO

YES

214
SEND AN EXPLICIT AND DELAYED ACKNOWLEDGEMENT TO THE CLIENT

216
END

Fig.6